

American Creosote Works Site



PENSACOLA, FLORIDA

DECEMBER 1999

In May 1999, EPA selected a new remedy for cleaning up contaminated soil, sludge, and **sediment** at the American Creosote Works **Superfund** Site ("ACW Site") in Pensacola, Florida (see Figure 1). This fact sheet describes the remedy that EPA chose and provides an update on other cleanup activities at the Site.

The fact sheet discusses activities at the Site since issuance of the last fact sheet in January 1999. Previous fact sheets are available by request or can be reviewed at the information repository, which is located at the West Florida Regional Library.

Words appearing in **bold** are defined in the glossary on page 4.

EPA Selects New Cleanup Remedy for Soils

Note: The ACW Site has been divided into two phases of work, known as "Operable Units." Operable Unit 1 addresses contaminated soil, sludge, and sediment, which represents the source of contamination at the Site. Operable Unit 2 addresses **groundwater** contamination.

In May 1999, following a public comment period and public meeting, EPA signed an Amended Record of Decision (ROD) selecting a cleanup remedy for Operable Unit 1 (soil, sludge, and sediment). The Amended ROD made changes to the cleanup plan outlined in the 1989 ROD for the Site.

The 1989 ROD called for biological treatment to address soil contamination. Biological treatment is a cleanup process that uses naturally occurring or specially cultivated microorganisms to digest contaminants and break them down into nonhazardous components. However, following testing of the tech-

nology, EPA determined biological treatment would not be effective on all chemicals present in the soils. Therefore, the Amended ROD selected a new remedy.

The new remedy involves consolidating and containing contaminated soil, sludge, and sediment on site. The function of the remedy is to isolate the waste and prevent the chemicals contained in the waste from moving into surrounding areas. The surface of the waste will be covered with a specially designed asphalt cap to prevent erosion and rain infiltration. Drainage channels will be installed around the perimeter of the cap to manage stormwater runoff. The groundwater in the vicinity of the capped area will be monitored to evaluate the effectiveness of the remedy.

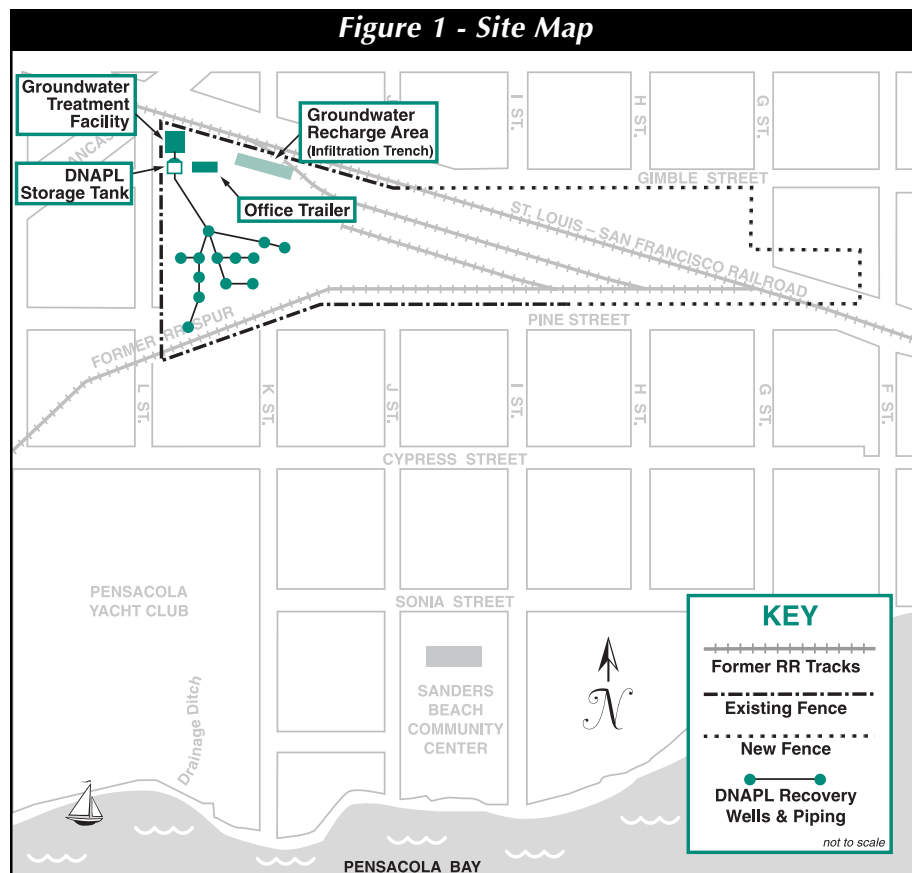
Other components of the selected remedy include:

- Demolish, decontaminate, and dispose of foundations and debris in an off-site landfill.
- Excavate contaminated soil in residential areas and the Pensacola Yacht Club (PYC) that exceeds EPA's remedial goals



Information Session... EPA will hold an information session for the community to discuss cleanup progress and potential redevelopment of the ACW Site. The information session will be held at the **Sanders Beach Community Center** on **Thursday, January 13, 2000**. Stop by anytime between 5 and 7 p.m.

Figure 1 - Site Map



and consolidate these materials on the ACW property.

- Backfill excavated areas with clean fill, regrade, and landscape.
- Excavate contaminated sediment in the PYC drainage ditch that exceeds EPA's remedial goal (to a maximum depth of 3 feet) and consolidate this material on the ACW property.
- Regrade, revegetate, and restore the disturbed areas of the ditch.
- Repair or replace existing security fence around the Site as needed.
- Provide periodic sampling of sediment in the PYC drainage ditch and regular maintenance of the cap on the ACW property.

EPA Addresses Public Comments on the Soils Remedy

Prior to issuing the Amended ROD, EPA held a public comment period and public meeting to gather input on its preferred alternative for cleaning up Site soil, sludge, and sediment. Numerous comments were received; the primary concerns raised related to the preferred alternative for the PYC ditch sediment and the adequacy of the residential sampling program.

Based on public input, EPA modified the remedy presented in the Proposed Plan for the PYC ditch sediment. Originally, EPA proposed removing contaminated sediment from the PYC ditch and installing culverts to replace the stormwater management function of the ditch. However, based on concerns expressed by the City of Pensacola Engineering Department, PYC,

Bayou Chico Association, and the National Oceanic and Atmospheric Administration, EPA, in consultation with the Florida Department of Environmental Protection (FDEP), chose to excavate the contaminated sediment and restore the PYC ditch to its original condition.

Residents also raised concern about the residential soil sampling program, suggesting that the depth (3 inches) and areal extent of the sampling were inadequate. While EPA maintains that its residential sampling program for the Site has been thorough and comprehensive, EPA recognizes the potential for deeper contamination in the surface drainage area immediately south of the former lagoons. To address this concern, a supplemental sampling effort was conducted by the U.S. Army Corps of Engineers - Mobile District in March 1999, which included collecting samples from the surface to about 3 feet deep. The results of this sampling effort are discussed on page 4.

U.S. Army Corps of Engineers Assumes Site Cleanup

In March 1999, the U.S. Army Corps of Engineers - Mobile District (USACE), under an agreement with EPA, took over operations at the Site. With oversight from EPA and FDEP, USACE will be responsible for operating and maintaining the current groundwater treatment system and for designing and building the containment remedy. USACE has extensive experience designing and building similar cleanup remedies at Superfund sites throughout the country.

Design and Construction of Soils Remedy

The 90 percent design of the soils cleanup remedy is expected to be complete in March, with the final design complete by early summer 2000. Following approval of the final design by EPA and FDEP, the agencies will negotiate a Superfund State Contract in which EPA will seek to secure 10 percent in matching funds from the State required by the Superfund law for construction of the remedy. EPA anticipates that construction will begin in the fall of 2000 and last approximately one year.

Redevelopment of the Site

The Superfund Redevelopment Initiative is EPA's new national effort to return the country's most hazardous waste sites to productive use by selecting cleanup remedies

that are consistent with the anticipated future use of the sites. While EPA's primary mission is to protect human health and the environment, Superfund cleanups have also been instrumental in returning contaminated sites to productive use. The Agency has increasingly recognized the need to work with communities as part of the cleanup process to determine what future use of the site is likely to be, so that EPA can try to make the cleanup protective for that use. For more information, visit EPA's Superfund Redevelopment Initiative web site at www.epa.gov/superfund/programs/recycle.

In this spirit, EPA is in active discussions with the City of Pensacola regarding the potential redevelopment of the ACW Site once it is cleaned up. In an October 29, 1999 letter to EPA, the City indicated its interest in obtaining ownership of the Site in order to redevelop it, providing EPA caps the Site with materials that provide protection of human health and the environment while allowing for commercial

utilization. In response, EPA has revised the design to include a modified asphalt cap rather than a soils cap. This change results in a potential savings of \$300,000 in project costs. The asphalt cap also will provide a better surface for future redevelopment of the Site.

Results of Residential Soil Sampling

In March 1999, USACE conducted a residential soil sampling program to delineate potential areas of contamination

SITE HISTORY

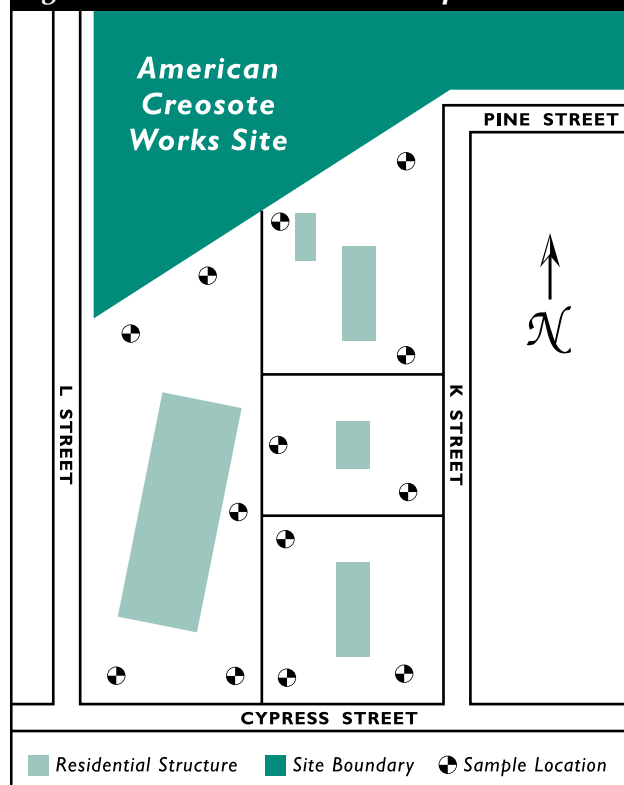
The 18-acre ACW Site is located one mile southwest of the intersection of Garden and Palafox Streets and 600 yards north of Pensacola Bay and Bayou Chico (see Figure 1). Wood preserving operations were carried out at the Site from 1902 until 1981. Creosote and pentachlorophenol (PCP) were two preservatives used at the Site. Wastes from these operations contaminated soils and groundwater. In 1983, EPA placed the ACW Site on the National Priorities List, EPA's list of top priority hazardous waste sites in the country. EPA conducted numerous investigations and found chemical contamination in on-site and off-site soil, sediment, and groundwater.

In 1985, EPA signed a Record of Decision (ROD) for cleaning up the soils and sediments. EPA's remedy was to place these materials in a landfill on the Site. The State of Florida disagreed with this decision, citing the need for more information. Consequently, EPA evaluated other options and in 1989 signed a ROD selecting bioremediation to treat the surface soils. Bioremediation is a process that uses naturally occurring microorganisms to digest contaminants and break them down into nonhazardous components. Subsequent studies showed that bioremediation would not be effective on some of the chemicals found at the Site. In May 1999, EPA issued an Amended ROD selecting on-site containment and capping.

EPA signed a ROD in 1994 selecting a two-phase approach to clean up the groundwater. Phase one involves the removal of dense nonaqueous phase liquids (DNAPLs). Phase two will involve cleaning the groundwater. EPA completed construction and began operation of Phase I, the DNAPL removal system, in 1998.

In the summer of 1997, EPA and FDEP signed a Superfund State contract in which EPA secured 10 percent in matching funds from the State required by the Superfund law for construction and start-up of the DNAPL recovery system. In March 1999, EPA hired the U.S. Army Corps of Engineers - Mobile District to operate the DNAPL recovery system and design the on-site containment remedy for soil, sludge, and sediment.

Figure 2 - March 1999 Soil Sample Locations



just southwest of the Site. Soil samples were collected from three single family properties and one condominium complex (see Figure 2). A total of 39 samples were collected from 13 locations at depths ranging from 0 to 3 feet deep. USACE did not detect contaminants above EPA's remedial goals at two of the residences along K Street; therefore, these properties will not require excavation. Contaminants at levels exceeding EPA's remedial goals were found on the condominium complex property and on the residential property located at the northwest corner of Cypress and K Street. EPA and USACE plan to excavate contaminated soils from these locations and backfill with clean soil. The contaminated materials will be brought onto the ACW property, consolidated with other materials, and capped. EPA and USACE will be coordinating closely with the condominium complex and the residential property owner during the construction phase of the project.

In November 1999, USACE collected additional soil samples from several on- and off-site locations. The samples are currently being analyzed by a laboratory. EPA will report the results once they become available.

Progress of DNAPL Recovery

Since 1998, EPA and its contractors have operated a system for removing **dense nonaqueous phase liquids (DNAPLs)** from the **aquifer** beneath the Site. The DNAPLs contain **creosote**, a chemical once used at the Site. To date, a total of 25,000 gallons of DNAPL has been removed from the groundwater and shipped to Giant Cement in Norwood, North Carolina. The most recent shipment—4,700 gallons—was sent in October 1999. At Giant Cement, the DNAPLs are burned as fuel for a cement kiln. In March 1999, the USACE took over operation of the system.

During the summer of 1999, the DNAPL recovery system was struck by lightning, which damaged the power supplies, circuit boards, controls, and instrumentation. The system was shut down for two weeks while the power supplies and circuit boards were replaced and reprogrammed. Since then, USACE has been operating the system manually while they repair the controls and instrumentation. In addition, USACE is working on system enhancements, including installing well sensors to provide maximum creosote extraction.



FOR MORE INFORMATION...

Call EPA's Information Line

If you have any questions about this project, call EPA at 1-800-435-9234 and speak with Mark Fite, Remedial Project Manager

Visit the Information Repository

**Reports and plans for the ACW Site are located at:
West Florida Regional Library
200 West Gregory St., Pensacola, FL 32501
850-435-1763**

Glossary

Aquifer: an underground formation of sand, soil, rock, or gravel that can store and supply groundwater to wells or springs.

Creosote: A colorless to yellowish greasy liquid with a smoky odor and burned taste used as a wood preservative. In waste form, usually an oily black liquid.

DNAPL (Dense Nonaqueous Phase Liquids): DNAPLs can include creosote, solvents, and pesticides. DNAPLs are heavier than water and sink until they settle on the bottom of an aquifer, forming pools of pure waste that slowly dissolve in the surrounding water.

Groundwater: The supply of fresh water found beneath the Earth's surface (usually in aquifers) that is often used for supplying wells and springs.

Sediment: Solid material, such as sand, soil, and minerals, that have settled to the bottom of a body of water.

Superfund: A Superfund site is an area contaminated by hazardous substances that pose a threat to human health and the environment, where EPA's Superfund program either funds the cleanup of the site, works with the state to clean up the site, or oversees cleanup by those responsible for the contamination. EPA lists the hazardous waste sites that are our country's priority for cleanup on its National Priorities List (NPL).

